Woodward-Clyde Consultants

Engineering & sciences applied to the earth & its environment

RECD 10-13-92
F.B.

October 9, 1992
87X4660-6.30

Mr. Frank Battaglia
USEPA Region I
Waste Management Building
90 Canal Street
Boston, MA 02114

Re: Untreated Sewage Release at the Former CIBA-GEIGY Facility in Cranston, Rhode Island

Dear Mr. Battaglia:

On September 28, 1992, a subsurface vault (from a city force main) leaked untreated sewage onto the surficial soils (and pavement) in the southern part of the Production Area. The force main, which originates from the Cranston Pumping Station, pumps untreated sewage from offsite sources through the facility via City of Cranston right-of-way to the Cranston publicly owned treatment works (POTW). The subsurface vault is located in the southeastern corner of the Production Area, near where the force main changes direction and continues northwesterly through the facility (Figure 1). Upon detection of the sewage, the Cranston Sewer Department, Rhode Island Department of Environmental Management, and the United States Environmental Protection Agency were notified. To locate the source of the leak, city employees pumped out the contents of the vault and discharged approximately 200,000 gallons of untreated sewage onto the surface of the Production Area. Untreated sewage backed up along the entire length of the bulkhead before discharging to the Pawtuxet River or infiltrating into the groundwater. A layer of residual sludge covered the impacted area after the water drained.

CORRECTIVE ACTION

Three actions will be (or have been) performed to address the sewage release. A description of each action is presented here.

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Repairs to the source of the release have been completed. The Cranston Sewer Department determined that a corroded 6-inch plug at the base of the force main (perhaps used for drainage) was the cause of the release. To prevent further leakage from this source, a steel band clamp was secured around the force main. Repairs by sewer department personnel were completed on September 29, 1992.

Remediate areas impacted by release. Sewage contaminated areas in the Production Area have been delineated with barrier tape. Sewage sludge and contaminated soils will be scrapped off, staged in lined roll-off containers, chemically characterized, and then disposed of at a secure landfill. Site cleanup activities will be performed by Clean Harbors (of Providence, Rhode Island). All cleanup activities will be performed in accordance with OSHA Regulations 1910.120.

Sample groundwater to determine if new contaminants (if detected) will be problematic. The pilot pretreatment system was designed using groundwater data from five wells located in the vicinity of the new recovery wells. If new contaminants are detected in the shallow aquifer (as a result of the release), the ability of the pilot pretreatment system to treat water generated during aquifer testing may be impacted. The system was not designed to remove sewage related contamination, such as nutrients and natural organic loadings (as indicated by BOD and TKN). Our major concern will be if the new types of contaminants would clog or interfere with our treatment train. To ensure that the pretreatment system will meet the discharge limits specified by the POTW, monitoring wells affected by the release have been sampled. On September 30, 1992, four monitoring wells (MS-1S, MW-2S, RC-1, and RC-2) were sampled for: POTW/NPDES parameters, nutrients, major ions, and selected metals. Prior to resuming aquifer testing, these data will be evaluated to ensure that the system's ability to meet discharge limits will be met.

IMPACT TO THE PROJECT SCHEDULE

The release of untreated sewage into the Production Area delayed further the start of aquifer testing by an additional two weeks. Aquifer testing was scheduled to start the week of September 28, 1992 (the day the release occurred). Before this task can resume, the sludge and contaminated soil will have to be cleaned up from the impacted areas. Remediation of the impacted areas was begun on October 7, 1992. The work is expected to take two to three days to complete. Aquifer testing is scheduled to resume on October 12, 1992.

Should you have any questions or comments, please feel free to contact us.

Very truly yours,

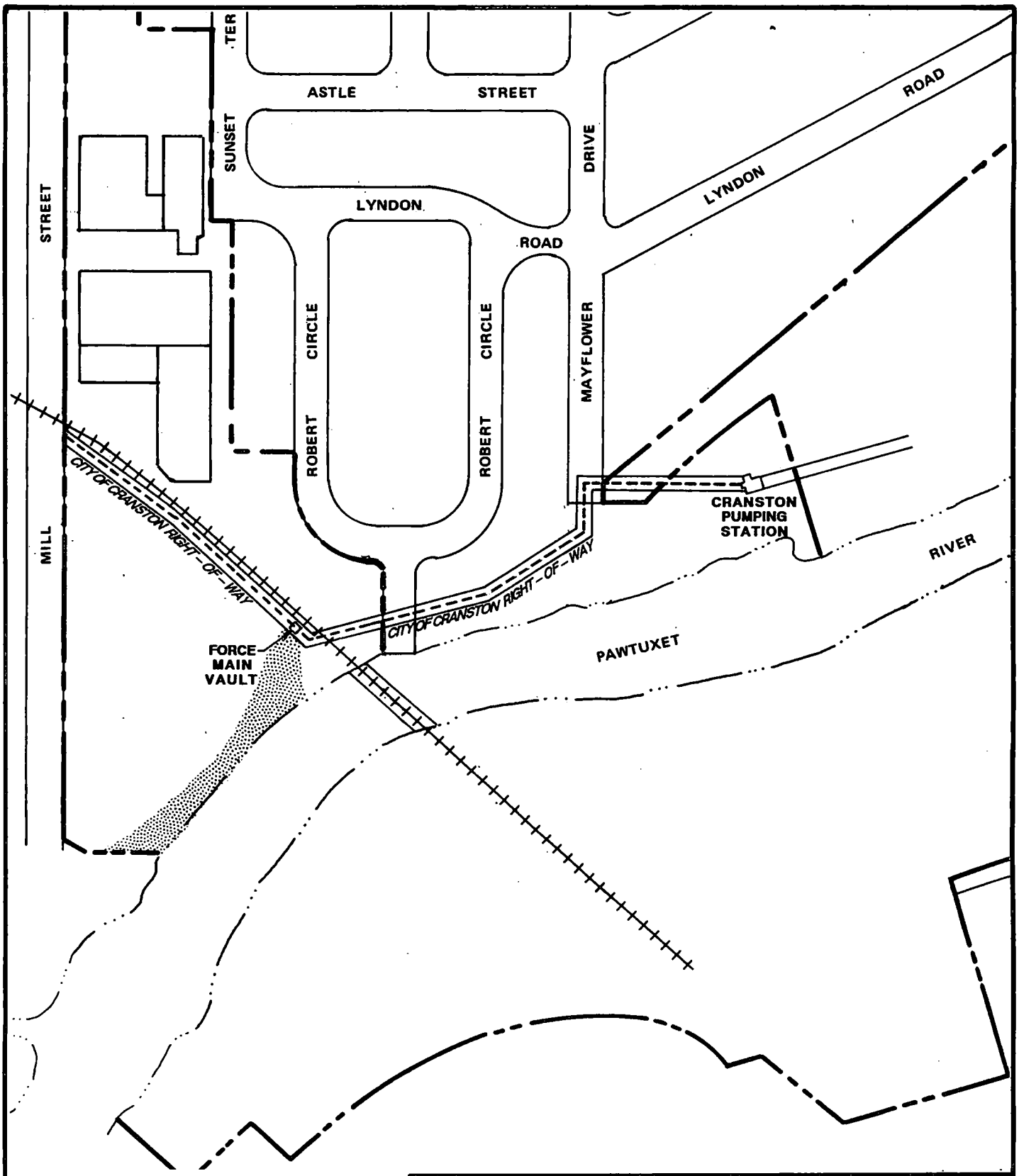
Mark Houlday

Mark Houlday
Project Manager

Roger H. Henning, Ph.D.
Senior Associate

MH:RJH:cd

cc: Diane Leber



LEGEND:

- — — — 24" REINFORCED CONCRETE FORCE MAIN
- APPROXIMATE EXTENT OF SEWAGE RELEASE

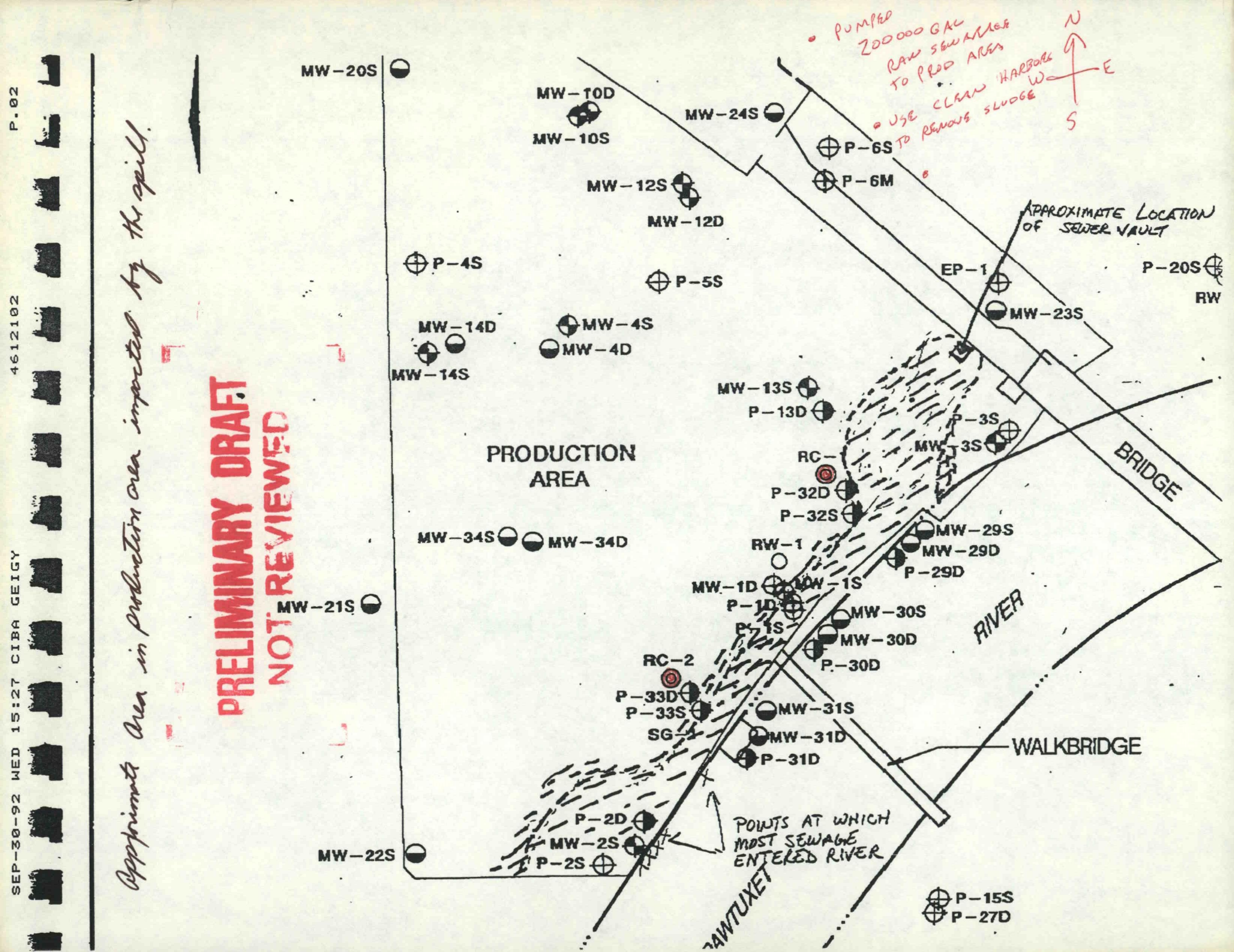
0 200 400 FT

SCALE

APPROXIMATE LOCATION AND EXTENT OF FORCE MAIN SEWAGE RELEASE

WOODWARD – CLYDE CONSULTANTS
CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS
WAYNE, JERSEY

DR. BY:	KJF	SCALE:	AS SHOWN	PROJ. NO.:	87X4660
CK'D BY:	KAK	DATE:	6 OCT 1992	FIG. NO.:	1


Approximate area in production over impacted by the spill.
PRELIMINARY DRAFT
NOT REVIEWED
PRODUCTION AREA
MW-20S
MW-10D
MW-10S
MW-12S
MW-12D
P-4S
P-5S
MW-14D
MW-14S
MW-4S
MW-4D
MW-34S
MW-34D
MW-21S
MW-22S
P-2D
MW-2S
P-2S
RC-2
P-33D
P-33S
SG
MW-24S
P-6S
P-6M
EP-1
MW-23S
MW-13S
P-13D
RC-1
P-32D
P-32S
RW-1
MW-1D
MW-1S
P-1D
P-1S
MW-29S
MW-29D
P-29D
MW-30S
MW-30D
P-30D
MW-31S
MW-31D
P-31D
P-15S
P-27D
P-20S
RW
P-3S
MW-3S
BRIDGE
RIVER
WALKBRIDGE
PAWTUXET
POINTS AT WHICH MOST SEWAGE ENTERED RIVER
APPROXIMATE LOCATION OF SEWER VAULT
PUMPED 200000 GAL RAW SEWAGE TO PROD AREA
USE CLEAN HARBOR TO REMOVE SLUDGE
N
S
E
W


W-3


W-3